UNITED STATES PATENT OFFICE.

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MANUFACTURE OF FLONGS FOR PRODUCING MATRICES FOR STEREOTYPING.

SPECIFICATION forming part of Letters Patent No. 542,847, dated July 16, 1895.

Application filed February 23, 1895. Serial No. 539,468. (No specimens.) Patented in England November 27, 1893, No. 22,732, and in France December 4, 1893, No. 234,529.

To all whom it may concern:

Be it known that I, GEORGE EASTWOOD, of London, England, have invented certain new and useful Improvements in the Manufacture of Flongs for Producing Matrices or Molds for Stereotyping, (for which I have obtained a patent in Great Britain, No. 22,732, bearing date November 27, 1893, and a patent in France, No. 234,529, dated December 4, 1893,) of which the following is a specification.

The flongs hitherto employed for the production of matrices or molds for stereotyping have generally been made of two or more thin sheets of blotting-paper or other bibulous paper with a facing composed of one or more sheets of tissue-paper and a backing composed of one or more thick sheets of blotting-paper and sometimes a layer of muslin behind this. The whole of this flong has been impregnated with a composition or paste, the nature of which has somewhat varied, but it has generally been a mixture of glue or gum, flour, starch, whiting, and borax or alum. When it is required to produce a matrix or mold with one of these flongs, the moist flong is put upon the type-form, beaten into the type with a brush, and then rolled; or sometimes the beating is dispensed with, in which case the rolling has to be effected under great pressure. Then the matrix thus taken is put, together with the type-form, into a hot press in order to dry, and it is necessary to cover the back of the matrix with one or more layers of blanket in order to absorb the moisture; or if the type is not heated the matrix is stripped off it and instead of being put into a hot press it is put into an oven or box of hot sand to dry. All these operations are slow and the resulting matrix or mold is often more or less imperfect, besides which the flong must be kept in a damp condition some time before it can be used.

Now the present invention consists in the manufacture of a flong from one thick sheet of blotting-paper or other bibulous paper faced on one or both sides when dry with composition or paste. The invention also comprises a special composition or paste for the purpose, the said composition or paste being one that will dry, consolidate, and harden upon the surface of the paper.

In carrying out the invention the composition or paste is preferably applied to the bibulous paper by means of a brush and in a warm state. It is then allowed to dry, and when it is dry the flong is complete and can be kept in stock in the dry state for practically any length of time.

In practice I find it desirable to face both sides of the paper with the composition, because by so doing I avoid any tendency of the paper to warp while drying. It is also well to apply a second coat of the composition after the first coat is dry. When this flong is to be used the face upon which the mold is to be produced is preferably smoothed with sand-paper; but this is not essential. This face is then slightly damped with water or with the composition by means of a sponge or otherwise, and it may then be covered with one or more sheets of tissue or other suitable paper, damp or dry. Then it is preferably rubbed with French chalk or other suitable material which will absorb superfluous moisture. The flong thus prepared is placed upon the type or in a frisket or frame, and is then surrounded by heated air for a few seconds, so as to just soften the composition and render it plastic. When in this state it is pressed upon the form by means of a platen press. The mold is thus taken and becomes at once fixed.

It will be understood from the foregoing description that my flong is a dry flong with the composition or paste on the face. When the flong is used the blotting or other paper does not contain moisture; but the composition or paste, after being slightly damped, as above described, becomes sufficiently softened by the heated air or by contact with the form (when this is heated) to enable a perfect mold to be taken by the press.

The special composition or paste which I preferably employ for facing the bibulous paper consists of treacle or other saccharine liquor, glue, flour, whiting, borax, and water. I do not limit myself to any particular proportions, but I recommend that the amount of treacle used should be about one-twentieth, by weight, of the combined weight of the other ingredients employed, exclusive of water.

The following proportions are given, by way of example, being those that I consider best: